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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,169	06/09/2005	Takeaki Sasaki	1830.1005	1709

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EXAMINER	
BELL, BRUCE F	

ART UNIT	PAPER NUMBER
1795	

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12/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/538,169	SASAKI ET AL.	
	Examiner	Art Unit	
	Bruce F. Bell	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,14-24 and 26-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-10,12,14-24,26 and 27* is/are allowed.

6)☒ Claim(s) *11,28-30 and 32-34* is/are rejected.

7)☒ Claim(s) *31* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 11, 30, 32-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Nara et al (6312571).

Nara et al disclose an activated cathode comprising an electrically conductive substrate, an interlayer of a nickel oxide formed on the surface of the electrically conductive substrate and a catalyst layer containing at least one lanthanum component selected from oxides of lanthanum metals and at least one platinum component selected from platinum metals and silver and formed on the interlayer. See abstract. The lanthanum metal can be any of the metals from atomic no. 57 to 71. See col. 4, lines 43-52.

The prior art of Nara et al anticipates the applicants instant invention as set forth above with respect to the instant claims as presented. Even though the prior art of Nara et al includes an interlayer, the claim is anticipated since "comprising" language has been used in the instant claim and therefore, this interlayer may be present since open claim language has been used and since the examiner is construing the substrate and interlayer to be the conductive carrier and therefore the catalyst is on the conductive carrier as set forth in the instant claim as presented. Further, the limitation with respect to the catalyst mixture being fixed on the conductive carrier has been inherently met by

virtue of the catalyst being fixed on the interlayer which is fixed on the conductive carrier. The limitations with respect to the gas diffusion electrode using the electrode catalyst and the method for gas diffusion electrode based brine electrolysis have been met by virtue of the electrode having a porous substrate, which electrodes made with such a material are known to be gas diffusion electrodes and these types of electrodes are well known to be used in brine electrolysis applications. The electrode catalyst of claim 11 have the same materials as that of the prior art of Nara et al and therefore would have the same attributes of oxygen reduction as set forth in applicants instant claim 34. Further, since there is no further narrowing of the electrocatalyst except for the recitation of properties of the materials, Nara would inherently have the same properties as set forth in claim 34, absent evidence to the contrary.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 11, 28-30, 32-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishiki (EP 0298055).

Nishiki et al disclose a cathode comprising a conductive base having a nickel surface having provided thereon at least on platinum group component selected from the group consisting of platinum group metal, platinum group oxide and platinum group hydroxide, and at least one cerium component selected from cerium, cerium oxide, and cerium hydroxide. See abstract. Part of the metallic component may be used in the form

of solid particles. See page 4, lines 24-29. Nishiki et al discloses that coating layer may contain a mixture of a platinum group component and a cerium component. See page 3, lines 48 and 49. The document further sets forth that the conductive base is nickel plated SUS or steel and that the surface may have any shape such as plate, rod, porous and expanded mesh shapes. See page 3, lines 57-64. A coating layer of both cerium component and a platinum group component is provided on the conductive base. See page 3, line 65 – page 4, line 1. The metallic components of the coating layer of the cerium component and the platinum component have particle sizes of from 0.1 micrometers to 50 micrometers (which equates to from 100 nm to 500 nm). See page 4, lines 24-27.

The prior art of Nishiki et al anticipates the applicants instant invention as shown by way of the disclosure above with respect to the instant claim as presented.

Allowable Subject Matter

5. Claims 1-10, 12, 14-24, 26, 27 and 31 are allowable over the prior art of record.

6. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach and/or suggest an electrode catalyst of the composition set forth in claim 1 wherein an alkaline earth metal is present in solid solution with the particulate rare earth oxide that is mixed with the particulate noble metal. The prior art of record further does not teach and/or suggest a process for preparing the gas diffusion electrode that includes laminating the reaction layer containing the electrode catalyst to the conductive carrier and collector.

7. Claim 31 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed 10/11/07 have been fully considered but they are not persuasive.

Claims 11, 30, 32-34 are rejected under 35 U.S.C. § 102 (b) as being anticipated by Nara and Claims 11, 28-30, 32-34 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nishiki.

Applicants argue that the electrode catalyst and active cathodes of Nara and Nishiki, respectively contain a noble metal and one or more rare earth oxides as catalytic components. The examiner agrees with this assessment. Applicant further argues that these catalyst and cathodes are used in brine electrolysis using a hydrogen generation cathode, in which water is supplied to the cathode and simultaneously converted to the hydroxide by removing a hydrogen atom for a hydrogen generation reaction. The examiner agrees with this assessment as well. However, applicant is reading the claims in light of the specification. It has well been held that the claims should be read in light of the specification, however, the limitations can not be read into the claims. Therefore, since the instant claims as presented have been met by the prior art of record and have the same components as the applicants, the claims have been met by the prior art catalyst and electrodes. Further, since the same materials are used in both the instant invention and in the prior art inventions, the catalyst and electrodes

will inherently have the same properties absent evidence to the contrary. Further, since applicants have used comprising language, it allows additional features and steps to be found in prior art devices such as interlayers and oxides and other materials in general, as long as the base materials as set forth in the instant claims have been found. Therefore, the prior art of Nara and Nishiki anticipate the applicants instant claims and the rejection as set forth STANDS.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BFB
November 30, 2007

Bruce F. Bell
Primary Examiner
Art Unit 1795